

Purpose of Chapter 6

The information presented in this chapter highlights some of the more significant environmentally sensitive areas within the GRP region that could be impacted as a result of an oil spill. Consistent with the overall purpose of the GRP's, this information is only intended to provide a level of detail required during the initial phase of spill response. During an actual event, additional resource information will be available from the resource trustee agencies supporting the Environmental Unit in the Planning Section. Specific resource concerns for areas that already have designated protection strategies in Chapter 4 of the GRP may be found in the "Resources Protected" column in the matrix describing the individual strategies.

The information provided in Chapter 6 is intended for use in:

- Preparing an initial ICS 232 form (Resources-at-Risk summary) for Incident Command
- Identifying those sites where it may be necessary to implement Flight Restriction Zones in order to prevent disturbance/injury to sensitive wildlife species.
- Identifying sensitive shoreline habitats to assist SCAT teams in their initial assessments and to help personnel in the Environmental Unit in developing appropriate cleanup strategies.

Chapter 6 consists of two sets of maps and tables - one for wildlife and the other for fish, shellfish and selected sensitive marine habitats. These data are presented separately, both for ease of reading and because each of the two data sets has slightly different applications within the context of spill response.

The wildlife maps and tables present information on the location and seasonal sensitivity of key wildlife resources. Types of data included here are concentration areas for waterfowl, marine birds and shorebirds; seabird colonies; nesting areas for sensitive species such as eagles, herons and falcons; and marine mammal haulout sites. This information is intended for the rapid identification of areas where significant wildlife oiling impacts could be anticipated and to denote areas where flight restriction zones may be required to protect sensitive wildlife. Each site depicted on these maps is identified by a unique number in order to facilitate the process of communicating Flight Restriction Zone recommendations to the Operations Section in ICS. The tables accompanying the wildlife maps present information on the season(s) during which sites may be particularly sensitive to disturbance.

The fish/shellfish/marine habitat maps present general information on the location of baitfish spawning beaches, herring spawning areas, streams used by anadromous salmonids, hardshell clam concentrations, and kelp and eelgrass beds. This information will be most useful to personnel involved in assessing initial risks to fish and shellfish resources and to those conducting initial beach reconnaissance, pending availability of more detailed resource information and the formation of SCAT teams.

Because the operational uses of this information differ from those of the wildlife data, individual site identification numbers have not been assigned. Tables associated with these maps will identify the seasonal sensitivity of each resource. In addition, notes accompanying each table will provide information on the general distribution and seasonal sensitivity of those resources that are not mapped but may occur anywhere in the GRP region (ex. juvenile salmonids in shallow nearshore waters).

6. Sensitive Resource Description*

6.1. Marine Mammals

A number of marine mammal species utilize the area encompassed within the boundaries of the North Central Puget Sound Geographic Response Plan. A total of 10 harbor seal haulouts are found in this region. The most significant of these are located in southern Skagit Bay and in the northern part of Port Susan. Most of these sites are used year-round, with pupping occurring from late June through the end of August. These sites are most sensitive during the pupping season due to the risk of mother/pup pairs being separated due to human disturbance. California sea lions and Steller (Northern) sea lions may be found within this region from late fall through mid-spring, especially in the Everett and Port Susan areas. Neither of these species breed in Washington. Although relatively few Steller sea lions are found in this area, this species is of special concern because it is federally listed as a threatened species. Other marine mammal species found in north-central Puget Sound include Dall's porpoise, harbor porpoise, orcas (killer whales), and gray whales. Within this planning area these species are most commonly found in Admiralty Inlet and along the west side of Whidbey Island. Both porpoise species are resident in the area whereas the orca and gray whale (along with both species of sea lions mentioned above) tend to use this area largely as a migration corridor when entering or leaving Puget Sound.

6.2. Birds

Although many species of birds nest and rear their young throughout the summer in this GRP area, the numbers and diversity of species increases dramatically during the migration and winter seasons. Breeding birds include great blue heron, osprey, bald eagle, glaucous-winged gull, Caspian tern, pigeon guillemot and marbled murrelet. Species that pass through on spring and fall migration or winter here in large numbers include common, Pacific, and red-throated loons, horned, red-necked and western grebes, double-crested and Brandt's cormorants, tundra and trumpeter swans, snow and Canada geese, brant, more than twenty species of ducks, over twenty species of shorebirds, Bonaparte's, mew, ring-billed, herring and Thayer's gulls, common murres and rhinoceros auklets.

Birds can be found in all parts of this GRP area but certain locations can be counted on to host large bird concentrations during the appropriate time of year. Shallow intertidal bays at the mouths of the Skagit, Stillaguamish and Snohomish River and Similk Bay host vast numbers of waterfowl, shorebirds and herons.

Skagit Flats is a famous wintering area for many species most notably trumpeter swans and snow geese that breed on Wrangell Island along the north coast of Siberia. The large number of waterfowl and shorebirds support merlins, peregrine falcons and occasionally gyrfalcons throughout the migration and winter period.

Jetty Island at Everett provides habitat for large Caspian tern and glaucous-winged gull colonies during the breeding season. A very small colony of Arctic terns also nests along the Everett waterfront.

Penn Cove and Crescent Harbor are heavily used as feeding areas by loons, grebes, diving ducks and alcids (murres, murrelets, auklets, and guillemots).

Areas where tides converge to create tide rips tend to concentrate baitfish such as herring and sandlance. Fish eating birds including loons, grebes, cormorants, gulls and alcids also congregate at these locations. Some of the major concentration areas include the West side of Deception Pass, the offshore area by Mukilteo, and the waters off Possession Point.

* Generated for the GRP by the Spill Response and Resource Protection Team of the Washington Department of Fish and Wildlife.

The three Endangered or Threatened species that breed in this GRP area are bald eagle, peregrine falcon and marbled murrelet.

6.3. Flight Restriction Zones

Flight restriction zones have been designated in the GRP to minimize disturbance to certain wildlife species. An identified location could represent a marine mammal haulout site, a seabird or heron colony, or the individual nest of a sensitive species such as bald eagle. While some zones may be restricted year around, others will be in effect only during the months listed in the matrix.

The no-fly bubble is the area within a 1,500 foot radius and below 1,000 feet in altitude around the location.

All aircraft, including those from the government, contractors or media, are expected to avoid these zones when restrictions are in effect. In the event that one of these zones must be entered during a spill response, clearance must be obtained from the Washington Department of Fish and Wildlife (WDF&W) and the United States Fish and Wildlife Service (USFWS), or when marine mammals other than sea otters are concerned, the National Marine Fisheries Service (NMFS). Sea otters are managed by the United States Fish and Wildlife Service.

During oil spills, pilots are also asked to avoid disturbing any large concentrations of birds and other wildlife. By keeping a safe distance or altitude, pilots can prevent the accidental hazing of unaffected wildlife into oiled areas and minimize the risk of aircraft/ bird collisions.

6.4. Hazing

Hazing or directed harassment, is a method used to drive or herd wildlife out of an area where they are at risk of becoming oiled. Hazing techniques include the use of visual and audio devices, personnel for herding, vessels and aircraft. In the right circumstances it can be an effective tool for protecting some wildlife species. In other cases it can be disastrous as unaffected wildlife can be driven into oiled areas, or forced to abandon nests or young.

National Marine Fisheries Service staff or their designees will perform all hazing of marine mammals other than sea otters. Before hazing can begin for all other species of wildlife, clearance must be obtained from the Washington Department of Fisheries and Wildlife and the United States Fish and Wildlife Service. All hazing efforts during a spill will be directed by these agencies. The deliberate harassment of wildlife without first securing permission from these agencies is a violation of Federal and State laws.

The following information must be provided for a determination on whether hazing might be authorized in a given situation.

1. Description of the situation where hazing authorization is being sought
2. Location to be hazed
3. Species of wildlife to be hazed and number of animals
4. Methods and equipment used
5. Date and time of hazing
6. Name, phone number, radio frequency, pager number and the amount of hazing experience of the individual requesting permission

The responsible agencies will evaluate each request on a case by case basis. All hazing of marine mammals, threatened and endangered species, and all hazing by aircraft will be performed only under authority and general supervision of WDF&W, USFWS, NMFS or persons designated by these agencies. Representatives of these agencies can be contacted through the planning section of the Unified Command System during the spill event.

DECEPTION PASS FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

									Flight and Ground Entry Restrictions *											
									PERIOD OF SENSITIVITY											
Page 18441	Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion													
4 Fidalgo Bay			Yes	Yes		Yes	Yes													
5 S. Padilla Bay Sloughs				Yes			Yes													
6 SW Padilla Bay	Yes				- Yes		Yes													
7 North Fidalgo Bay				Yes			Yes													
11 Williamson Rocks	Yes			Yes			Yes													
12 Biz Point					Yes		Yes													
13 Deception Island					Yes		Yes													
63 Burrows Bay			Yes				No													
65 Deception Pass		Yes					No													
NC-22 Ika Island					Yes		Yes													
NC-23 Deadman Island					Yes		Yes													
NC-24 Hope Island					Yes		Yes													
NC-25 Kiket Island					Yes		Yes													
NC-26 N. Similk Bay			Yes				Yes													
NC-27 Hoypus Point					Yes		Yes													
NC-28 Deception Pass		Yes			Yes		Yes													
NC-29 Dugualla Bay (N.)					Yes		Yes													
NC-30 Dugualla Bay			Yes				Yes													
VNC-31 Dugualla Bay (S.)					Yes		Yes													

* FLIGHT AND GROUND ENTRY RESTRICTIONS

 Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

 Sensitive season - Minimize overflight disturbance

DECEPTION PASS

NORTH CENTRAL PUGET SOUND GRP

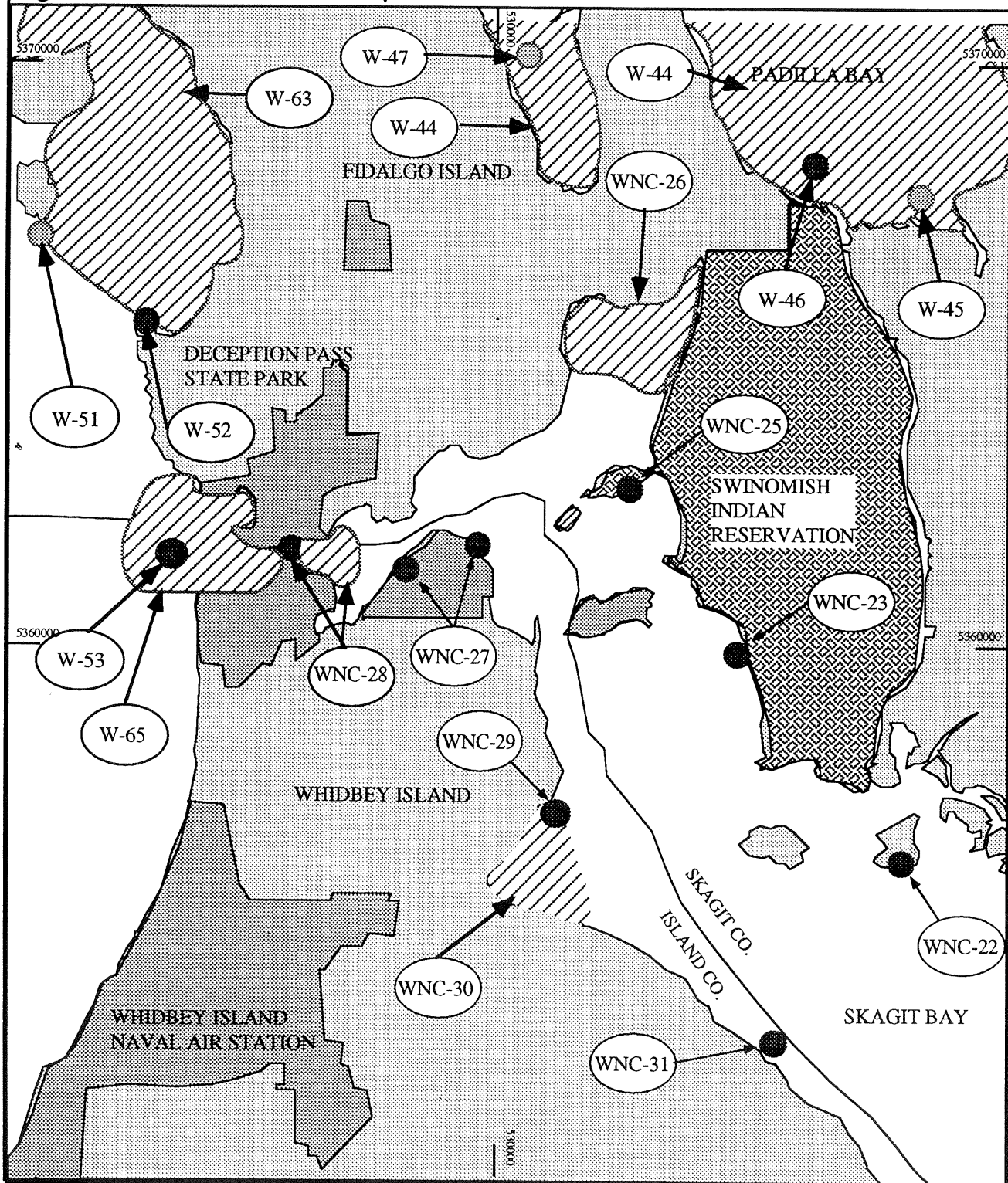
FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to the chapter on Flight Restriction Zones.
2. All ground entry within 100 yards of sensitive nesting species is restricted.
3. All boaters are requested to approach no closer than 100 yards to seal and waterfowl concentrations.

- MARINE MAMMAL HAULOUT
- SENSITIVE SPECIES NESTING
- ⊕ BOAT LAUNCH

- ▨ PARK OR PUBLIC LAND
- ▨ RESERVATION
- ★ TOWN OR CITY

- ▨ BIRD CONCENTRATION AREA



SKAGIT BAY FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

									Flight and Ground Entry Restrictions*											
									PERIOD OF SENSITIVITY											
Map Page 18441		Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight												
Code	Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WNC-21	Skagit Flats			Yes	Yes	Yes		Yes												
WNC-38	N. of Brown Point				-Yes			Yes												
WNC-39	South Slough Channels				Yes			Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

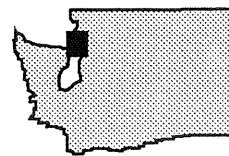
Sensitive season - Minimize overflight disturbance

SKAGIT BAY

NORTH CENTRAL PUGET SOUND GRP

FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to the chapter on Flight Restriction Zones.
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3. All boaters are requested to approach no closer than 100 yards to seal and waterfowl concentrations.

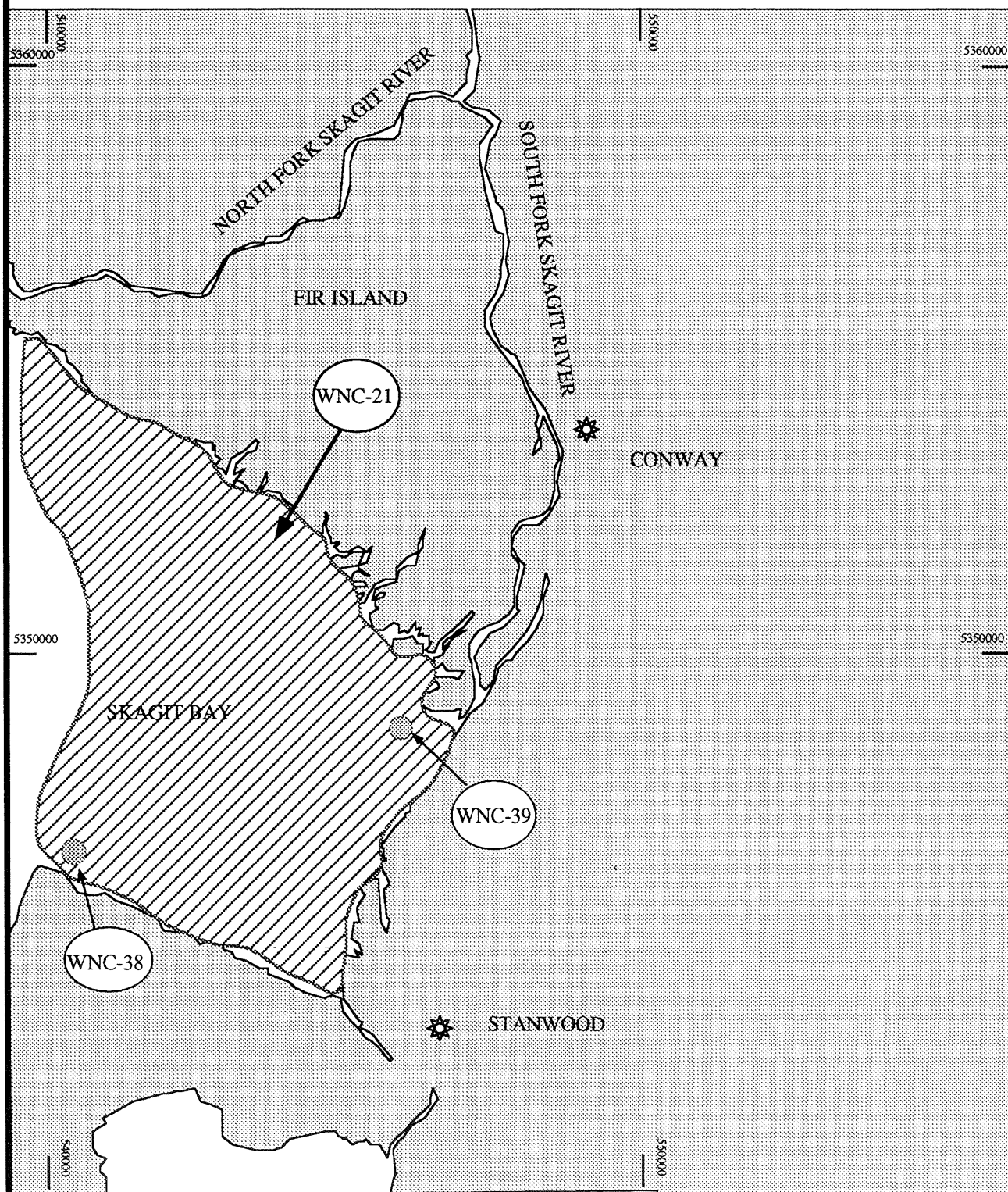


- MARINE MAMMAL HAULOUT
- SENSITIVE SPECIES NESTING
- BOAT LAUNCH

- PARK OR PUBLIC LAND
- RESERVATION
- TOWN OR CITY



BIRD CONCENTRATION AREA



WHIDBEY ISLAND FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

February 1, 1995

									Flight and Ground Entry Restrictions*											
									PERIOD OF SENSITIVITY											
Map Page 18441		Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion												
WNC-15	Whidbey Island					Yes		Yes												
WNC-16	Rocky Point					Yes		Yes												
WNC-18	Polnell Point					Yes		Yes												
WNC-19	Midway Wetlands			Yes				No												
WNC-20	Strawberry Point					Yes		Yes												
WNC-32	Crescent Harbor			Yes				No												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

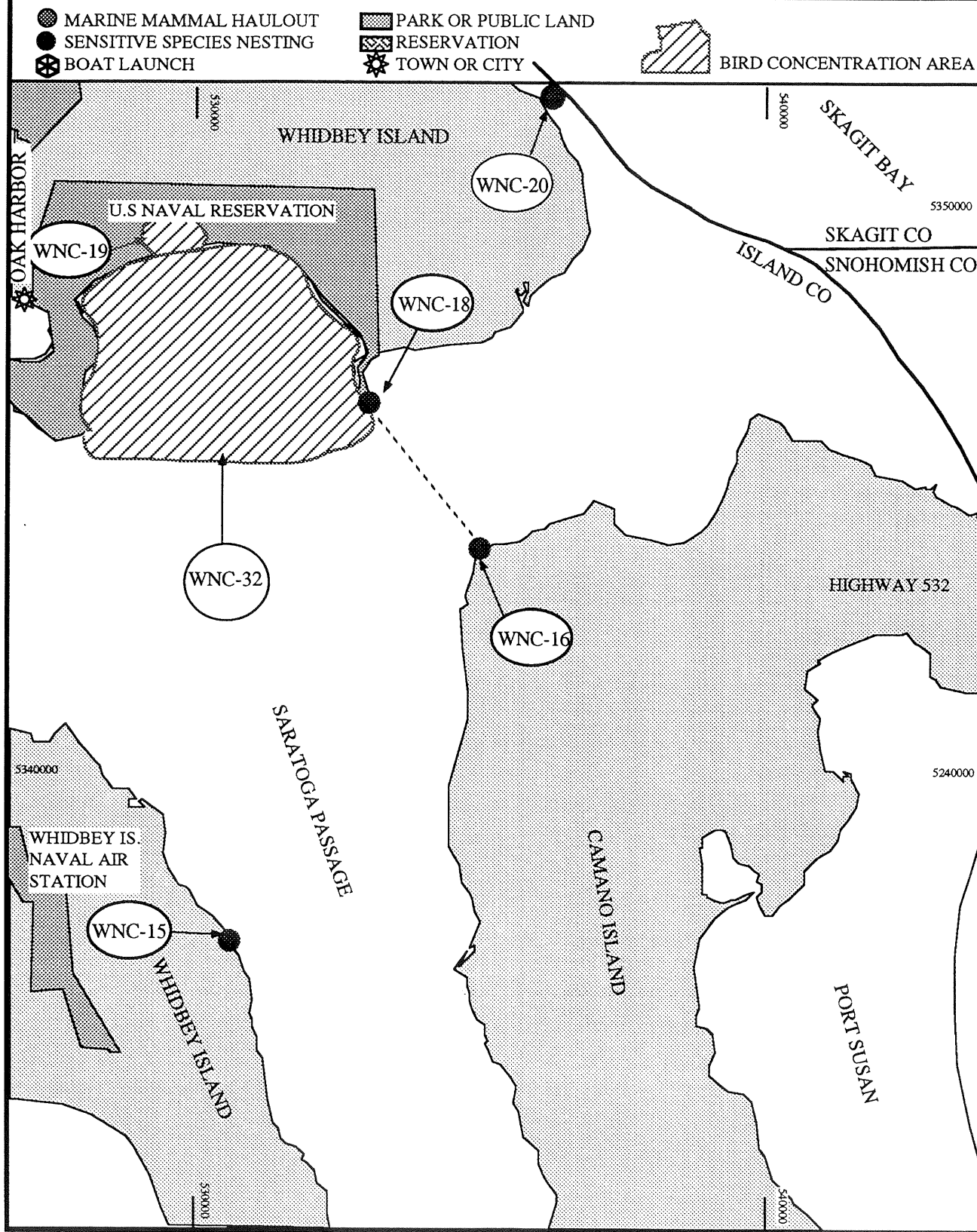
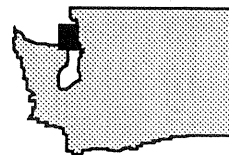
Sensitive season - Minimize overflight disturbance

WHIDBEY ISLAND

NORTH CENTRAL PUGET SOUND GRP

FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

1. Pilots refer to the chapter on Flight Restriction Zones.
2. All ground entry within 100 yards of sensitive nesting species is restricted.
3. All boaters are requested to approach no closer than 100 yards to seal and waterfowl concentrations.



FORT EBAY FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

									Flight and Ground Entry Restrictions *											
									PERIOD OF SENSITIVITY											
Map Page 18441		Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion												
WNC-17	Long Point					Yes		Yes												
WNC-33	Penn Cove		Yes	Yes				No												

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

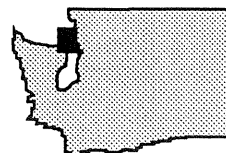
Sensitive season - Minimize overflight disturbance

FORT EBEY

NORTH CENTRAL PUGET SOUND GRP

FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

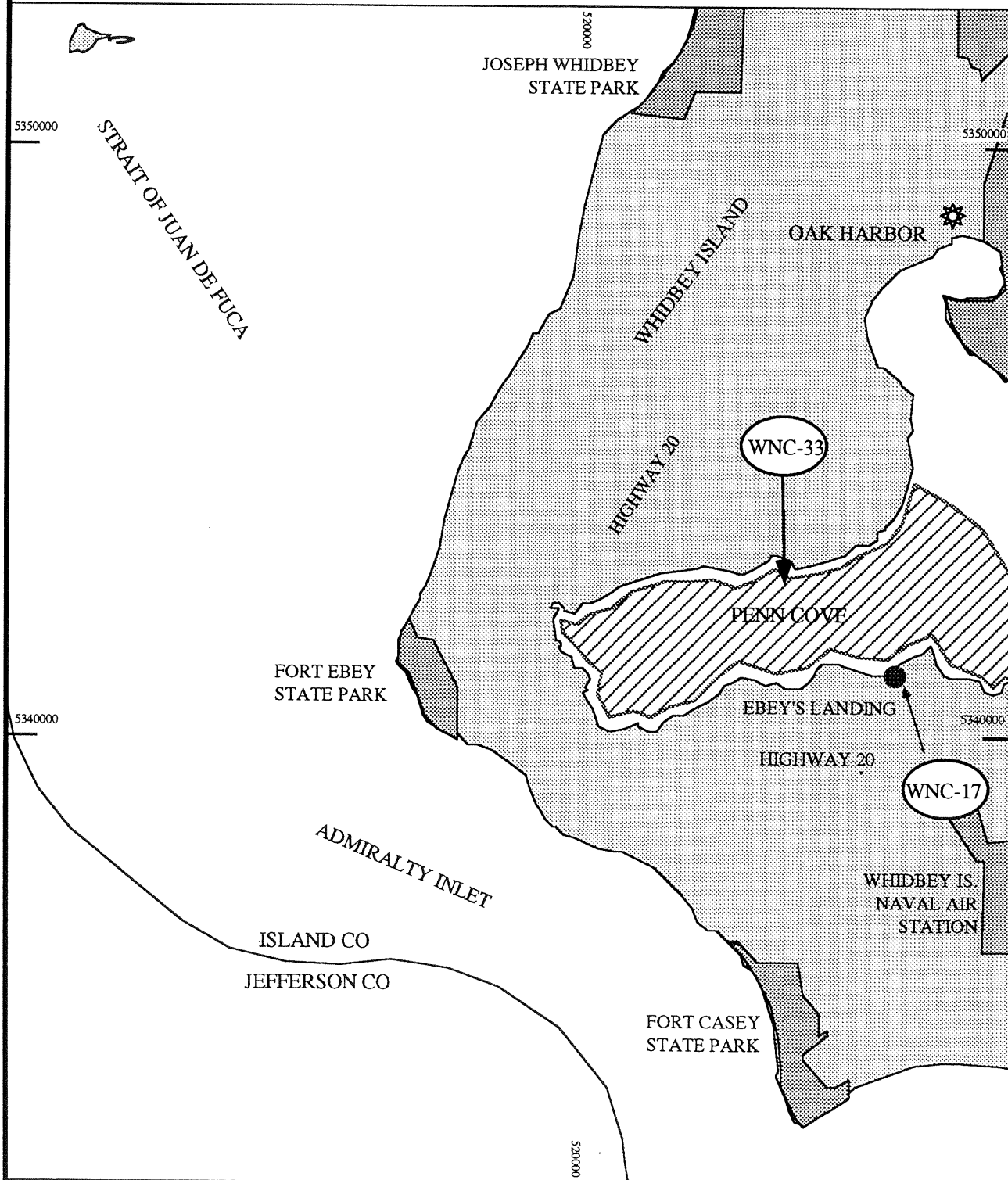
1. Pilots refer to the chapter on Flight Restriction Zones.
2. All ground entry within 100 yards of sensitive nesting species is restricted.
3. All boaters are requested to approach no closer than 100 yards to seal and waterfowl concentrations.



- MARINE MAMMAL HAULOUT
- SENSITIVE SPECIES NESTING
- ⊠ BOAT LAUNCH

- ▨ PARK OR PUBLIC LAND
- ▩ RESERVATION
- ⊛ TOWN OR CITY


- ▨ BIRD CONCENTRATION AREA




MARROWSTONE ISLAND FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

									Flight and Ground Entry Restrictions *											
Map Page 18441									PERIOD OF SENSITIVITY											
		Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion												
WAI-1	Crockett Lake			Yes			Yes	Yes												
WAI-2	Lake Hancock Wlds			Yes				No												
WAI-3	Lagoon Point			Yes				No												
WAI-4	Bush Point					Yes		Yes												
WAI-10	Marrowstone Point					Yes		Yes												
WAI-10A	Kilisut Harbor Spit				Yes			No												
WAI-12	Kilisut Harbor			Yes	Yes	Yes		Yes												
WAI-13	Nodule Point					Yes		Yes												
WAI-13A	E. Marrowstone I.				Yes			No												
WAI-16	Upper Oak Bay		Yes	Yes				No												
WAI-17	Kinney Point					Yes		Yes												
WAI-18	Olele Point					Yes		Yes												
WNC-10	Baby Island				Yes			Yes												
WNC-11	Freeland					Yes		Yes												
WNC-14	North Bluff					Yes		Yes												

* FLIGHT AND GROUND ENTRY RESTRICTIONS

 Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

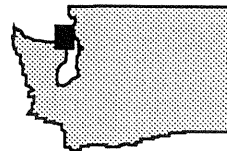
 Sensitive season - Minimize overflight disturbance

MARROWSTONE ISLAND

NORTH CENTRAL PUGET SOUND GRP

FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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2. All ground entry within 100 yards of sensitive nesting species is restricted.
3. All boaters are requested to approach no closer than 100 yards to seal and waterfowl concentrations.

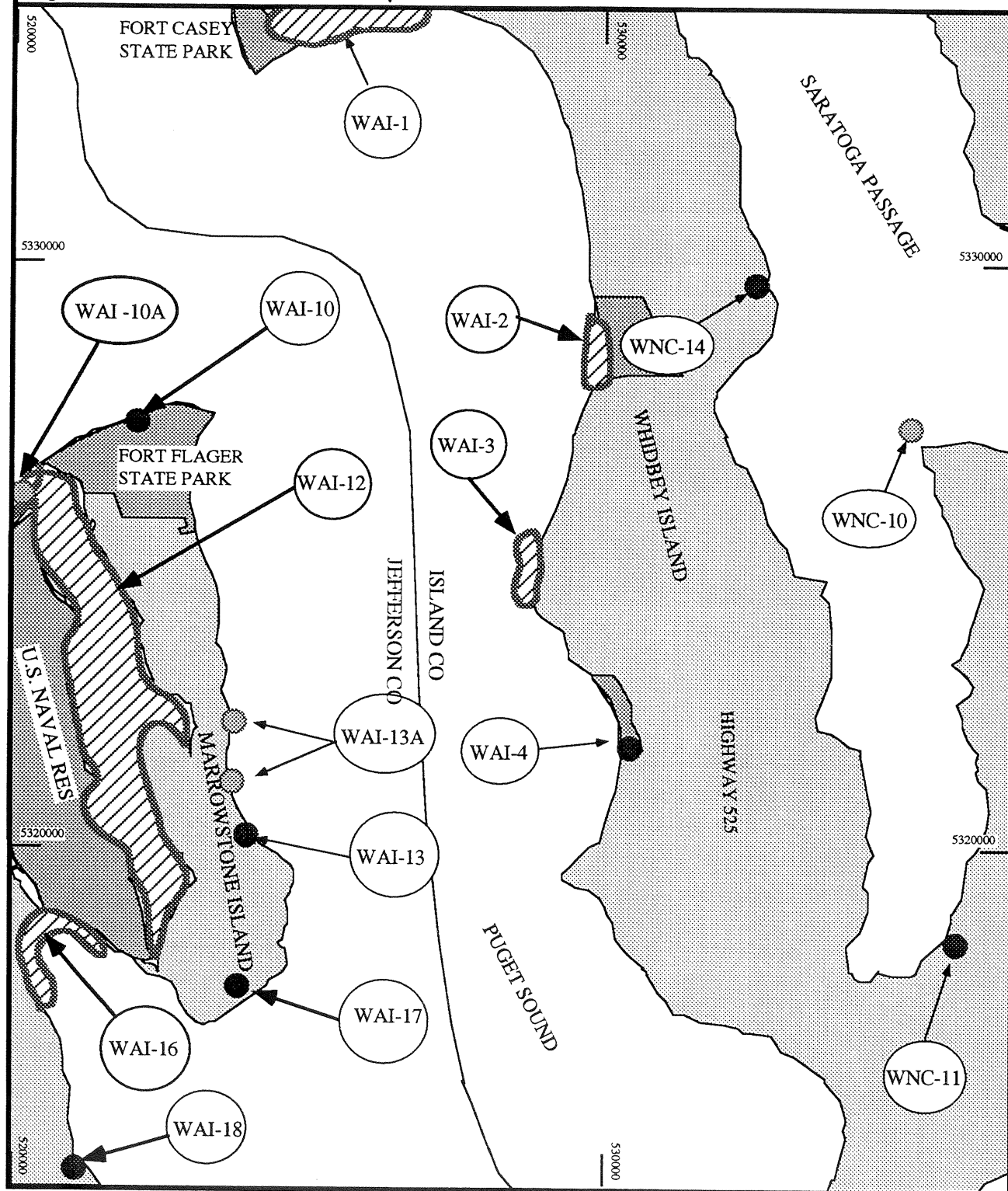


- MARINE MAMMAL HAULOUT
- SENSITIVE SPECIES NESTING
- ⊗ BOAT LAUNCH

- ▨ PARK OR PUBLIC LAND
- ▩ RESERVATION
- ★ TOWN OR CITY



BIRD CONCENTRATION AREA



CAMANO ISLAND FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

									Flight and Ground Entry Restrictions*											
									PERIOD OF SENSITIVITY											
Map Page	18441	Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight												
Code	Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WNC-7	Snohomish River Estuary		Yes	Yes		Yes	Yes	Yes												
WNC-8	Tulalip					Yes		Yes												
WNC-9	Sunny Shores Acres					Yes		Yes												
WNC-12	Camano Island					Yes		Yes												
WNC-13a	Port Susan			Yes	Yes	Yes		Yes												
WNC-13	Livingston Bay					Yes		Yes												
WNC-37	South Pass/Stillaguamish				Yes			Yes												

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

Sensitive season - Minimize overflight disturbance

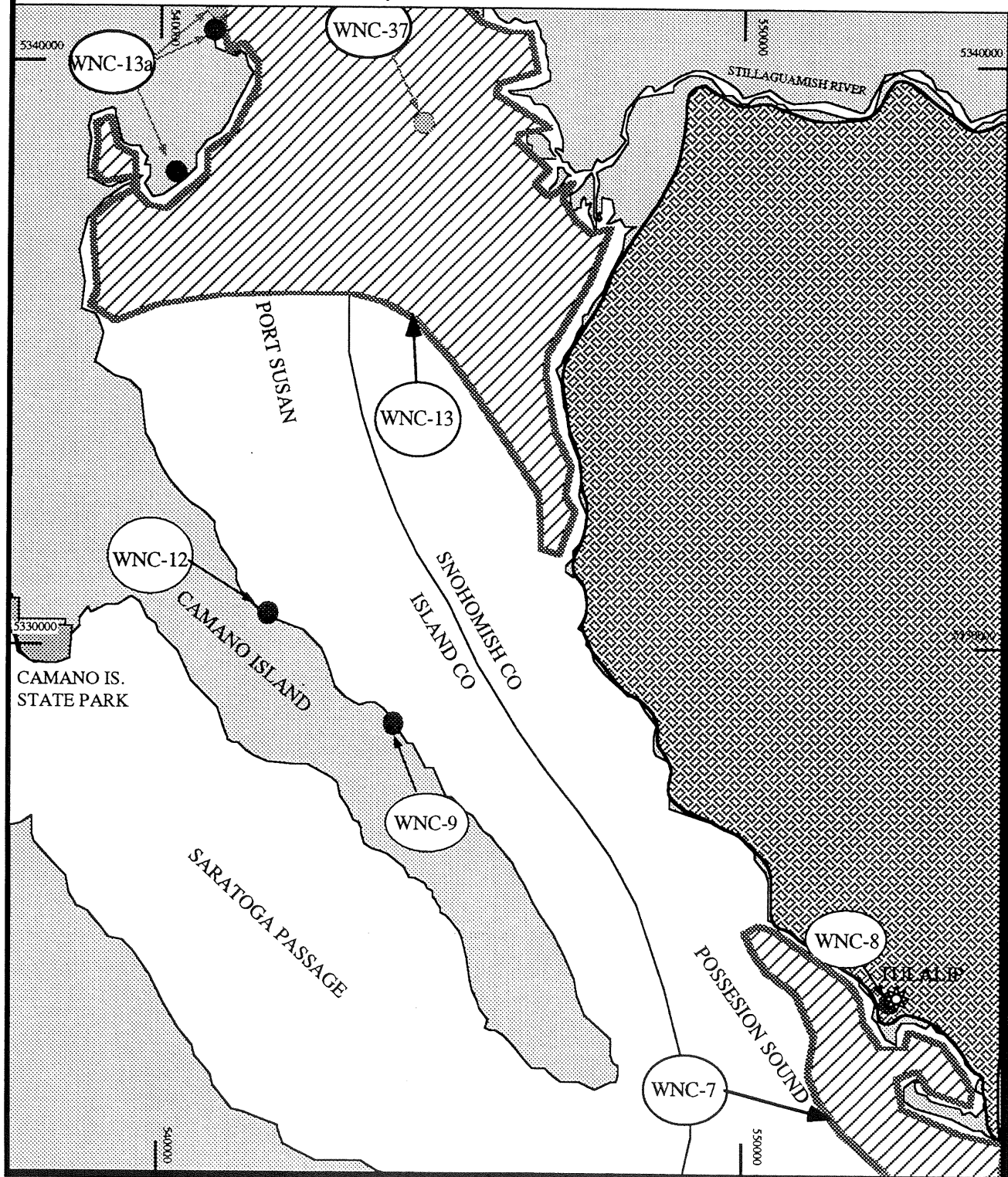
CAMANO ISLAND**FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES**

1. Pilots refer to the chapter on Flight Restriction Zones.
2. All ground entry within 100 yards of sensitive nesting species is restricted.
3. All boaters are requested to approach no closer than 100 yards to seal and waterfowl concentrations.

- MARINE MAMMAL HAULOUT
- SENSITIVE SPECIES NESTING
- ⊞ BOAT LAUNCH

- ▨ PARK OR PUBLIC LAND
- ▩ RESERVATION
- ⊛ TOWN OR CITY

- ▨ BIRD CONCENTRATION AREA



EVERETT FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

									Flight and Ground Entry Restrictions*											
									PERIOD OF SENSITIVITY											
Map Page 18441		Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight												
Code	Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WNC-6	Everett Breakwater/Jetty Is.	Yes		Yes	Yes			Yes												
WNC-7	Snohomish River Estuary		Yes	Yes	-	Yes		Yes												

*** FLIGHT AND GROUND ENTRY RESTRICTIONS**

Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

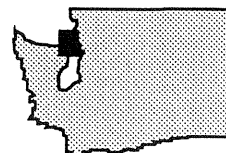
Sensitive season - Minimize overflight disturbance

EVERETT

NORTH CENTRAL PUGET SOUND GRP

FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES

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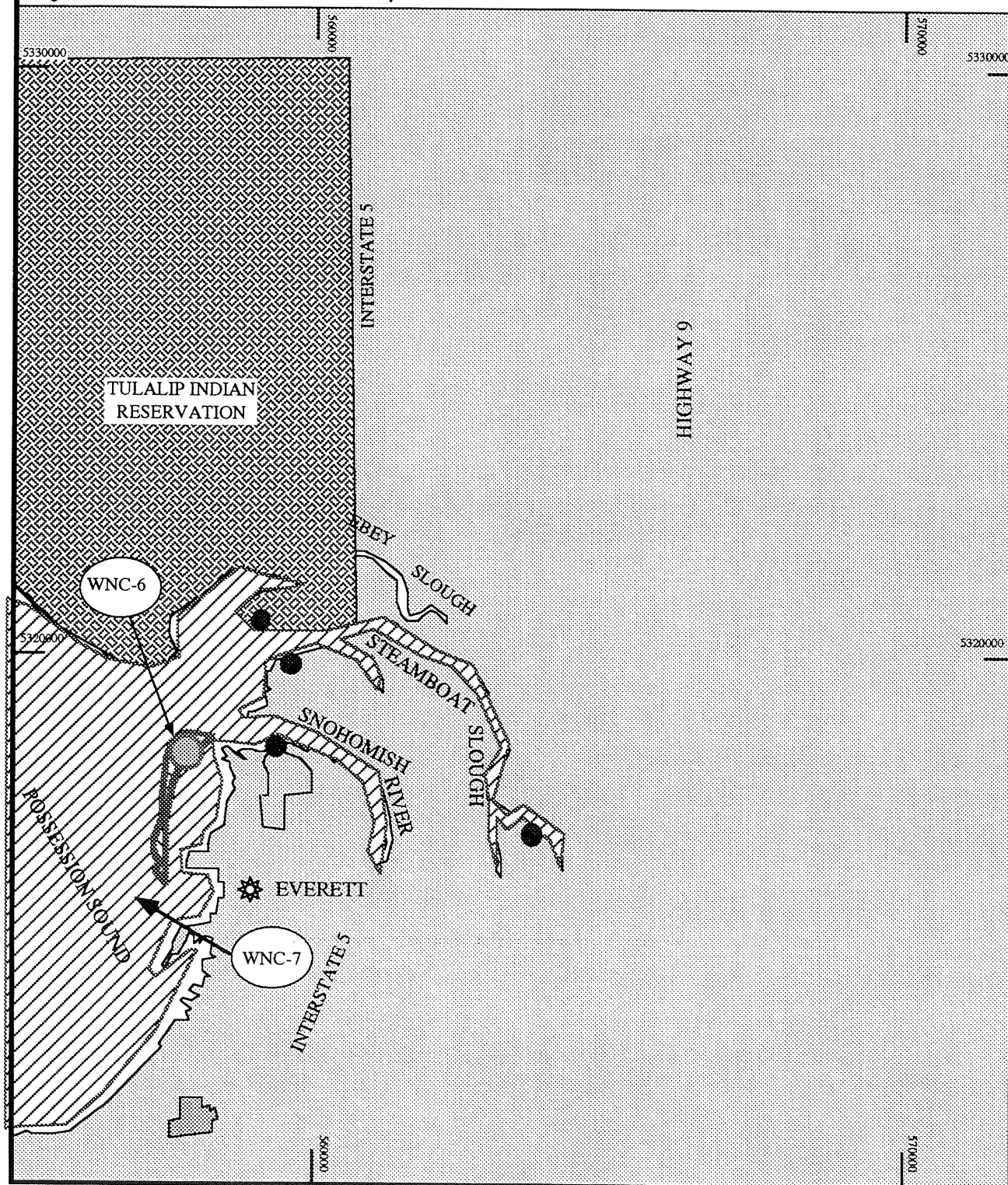


- MARINE MAMMAL HAULOUT
- SENSITIVE SPECIES NESTING
- ⊗ BOAT LAUNCH

- ▨ PARK OR PUBLIC LAND
- ▨ RESERVATION
- ★ TOWN OR CITY



BIRD CONCENTRATION AREA



MUKILTEO FLIGHT RESTRICTION ZONES / SENSITIVE WILDLIFE

									Flight and Ground Entry Restrictions*											
									PERIOD OF SENSITIVITY											
Map Page 18441		Seabird	Seabird	Waterfowl	Marine Mammal	Sensitive	Shorebird	Flight												
Code	Location	Colony	Conc	Conc	Haulout	nesting species	concentration	Exclusion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WAI-6	Deer Lagoon			Yes		Yes	Yes	Yes												
WAI-7	Cultus Lake			Yes		Yes	Yes	Yes												
WAI-8	Possession Point		Yes					No												
WAI-8A	Possession Point					Yes		Yes												
WNC-2	Picnic Point					Yes		Yes												
WNC-3	Possession Point S.					Yes		Yes												
WNC-4	Possession Point N.					Yes		Yes												
WNC-5	Glendale					Yes		Yes												
WNC-34	Mukilteo "Rip"		Yes					No												
WNC-35	Possession Pt. "Rip"		Yes					No												




* FLIGHT AND GROUND ENTRY RESTRICTIONS




Flights below 1000 feet require clearance: See appendix on Flight Restriction Zones

Sensitive season - Minimize overflight disturbance

MUKILTEO**FLIGHT RESTRICTION ZONES FOR SENSITIVE WILDLIFE SPECIES**

1. Pilots refer to the chapter on Flight Restriction Zones.
2. All ground entry within 100 yards of sensitive nesting species is restricted.
3. All boaters are requested to approach no closer than 100 yards to seal and waterfowl concentrations.

 MARINE MAMMAL HAULOUT
 SENSITIVE SPECIES NESTING
 BOAT LAUNCH

 PARK OR PUBLIC LAND
 RESERVATION
 TOWN OR CITY

 BIRD CONCENTRATION AREA

